Remarks Prepared for Delivery

Pioneering the Tools of Tomorrow

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Women's Health Issues & Space-Based Medical Research

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Remarks by
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Our focus today on women's health issues and the unique medical insights we get from space research is very timely.

Our nation stands at the threshold of a new century and, we hope, a new era of exploration and discovery in space. And I think today's discussion can help us achieve a broader perspective on this process of rolling back the frontiers of mystery.

The story of humankind is the story of learning to use tools. There are no fundamental physical differences between the people of today and the people who roamed this planet 25,000 years ago.

We have the same intelligence, the same reasoning power, the same abilities. But there is a difference between us, of course. And that difference is our tools.

Over the ages, tools have affected our history. Our tools have affected the development of our society and the very fabric of our culture.

When we speak of space travel, and the possibilities ahead of us in space, we are really talking about an extension of the same process.

Space flight is an expression of our innate need to explore, to push beyond the known boundaries, to develop new tools that affect our lives and our environment. In many ways, you might also say that this is

a very good definition for medical research.

Many of the people here today, as well as our featured speaker, are pioneers in every sense of the word. It is this similarity in outlook, this sense of being at the outer boundaries of knowledge, that helps account for the strong ties between the medical and space flight communities.

This connection, there from the very beginning of the Space Age, is not surprising. After millions of years of evolution within a gravity field, suddenly, 30 years ago, we were able to study humans in the absence of gravity.

Here on the ground, our doctors study what happens to sick people in a normal environment. In space, we study what happens to very healthy people in an abnormal environment.

And now, through our access to space, gravity has become a variable that we can manipulate. It is our latest tool, and it may turn out to be one of the most important that we have ever developed.

There is much more to come in the future. Let me offer one example. For several years, NASA has been developing lightweight composite materials for use in airplanes. They are strong, they are lighter than metal, and they save fuel.

The latest materials are actually woven, in layers of carbon fibers and resins that make very strong and efficient structures. But if the airlines are going to use composites widely, they have to be able to easily monitor the materials over time.

We need to be able to scan these structures to monitor for tiny cracks and do any necessary maintenance. A good way to do that is with advanced ultrasound equipment. We are working with a company in Pennsylvania to develop what the engineers call visualization software -- it allows the operator to better interpret what the instrument sees.

We put our talents together, and now this company, Supra Medical Corporation, is developing the same device for non-invasive examination of the breast.

This technique is safe, low cost, radiation-free, painless and gives verifiable diagnostic capabilities for tumors at very early stages of growth.

It is yet another tool in the long history of tools, and it is made possible by our willingness to invest in research at the cutting edge of technology.

Our featured speaker today knows about the power of these new tools. She understands the extraordinary nature of this new environment we are exploring.

Dr. Jeanne Becker is an assistant professor in the Department of Obstetrics and Gynecology, and Medical Microbiology and Immunology, at the University of South Florida College of Medicine.

She is involved in research with NASA using one of the most exciting new medical tools to come out of our space research in a long time. It's called the bioreactor, and I'm sure she's going to tell us more about it.

Dr. Becker is the author of numerous papers and presentations. She is a noted lecturer on women's issues and concerns in the field of medicine.

Please join me in welcoming Dr. Jeanne Becker.

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